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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/726,831	11/30/2000	Neal A. Osborn	35451/102	1494

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EXAMINER

QUILLEN, ALLEN E

ART UNIT	PAPER NUMBER
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2676

DATE MAILED: 08/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/726,831

Applicant(s)

OSBORN ET AL.

Examiner

Allen E. Quillen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 22 May 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

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DETAILED ACTION

Response to Amendment

1. Claims 1, 15, 22 and 30 are amended; all claims pending. Applicant's arguments with respect to claims 1-30 have been considered but are moot in view of the new ground(s) of rejection. Claim 30 amended to replace the word "palmheld" with "handheld".

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

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invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-6, 15-19, 21-26, 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuji, et al, U.S. Patent 6,522,347 as applied to claim 1 above, and further in view of Vouri, et al, U.S. Patent 5,767,834.

6. Regarding claim 1, representative of claims 15, 21, 22 and 28, Tsuji discloses a computing device (column 1, lines 9-20), comprising: a communications bus (Figure 3, Column 15, line 20 through Column 16, line 13); a display configured to display in more than one display mode and coupled to the communications bus (Figure 1, Figure 3, elements 13 and 15A, Column 14 line 8 through Column 15, line 6); a processor, coupled to the display and to the communications bus (Column 15, lines 20-50); and a memory coupled to the communications bus (Figure 3, element 12, Column 15, lines 28-56; Figure 4, element 15), the memory configured to receive and provide access to display information to be communicated to the display (Column 15, lines 51-55), the memory being controlled by display logic the display logic being configured to manage the memory (Column 15, lines 20-27) and allocate the memory according to the display mode and the display logic is configured to change the display mode during operation of the computing device (Column 19, lines 15-17; Column 22, lines 21-31; 58-64).

Tsuji does not disclose the disclose modes including at least one of resolution modes and color modes. Vouri teaches display modes including at least one of resolution modes and color modes (Column 7, lines 20-37; Column 9, lines 39-59; Column 5, lines 33-37). The motivation

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for combining PDA display with multiple display modes and the logic is to enable altering currently open applications, that use the screen resolution and/or color, without exiting or reloading the operating system (Column 1, lines 11-18, 33 through Column 2, line 45)

7. Regarding claim 2, representative of claims 16, 23, and 25, Tsuji discloses the computing device of claim 1, wherein the display mode is dependent upon the application running on the processor (Column 13, line 64 through Column 14, line 6; Column 42, lines 4-12).

8. Regarding claim 3, Tsuji discloses the computing device of claim 1, wherein the display mode is dependent upon the available memory (Column 40, lines 46-48).

9. Regarding claim 4, Tsuji discloses the computing device of claim 1, wherein the display mode is dependent upon the available memory bandwidth (see above; Column 15, lines 20-56).

10. Regarding claim 5, representative of claim 6, Tsuji discloses the computing device of claim 1, wherein the more than one display mode includes a high resolution and a low resolution display mode (Column 1, line 60 through Column 2, line 15; Figure 30-33, Column 53, lines 62 through Column 56, lines 1-9).

11. Regarding claim 12, Tsuji discloses the computing device of claim 1, wherein the more than one display mode includes a text display mode (Column 20, lines 13).

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12. Regarding claim 14, representative of claims 20 and 27, Tsuji discloses the computing device of claim 1, wherein the memory includes random access memory (RAM) (Column 15, line 34).

13. Regarding claim 17, representative of claim 24, Tsuji discloses the personal digital assistant of claim 15, wherein the display mode is dependent upon a mode signal from the operating system (Figure 3, Column 15, lines 20-60; Figure 36, Column 48, lines 22-26).

14. Regarding claim 18, Tsuji discloses the personal digital assistant of claim 15, wherein the display mode is dependent upon the display requirements of an application running on the processor (column 1, lines 49-53; Column 13, line 66 through Column 14, line 10; Column 19, lines 15-18).

15. Regarding claim 19, representative of claim 26, Tsuji discloses the personal digital assistant of claim 15, wherein the display includes a touch screen (see above, Column 15, lines 1-19; Column 19, line 1).

16. Regarding claim 29, Tsuji discloses the computing device of claim 22, wherein the computing device is included in a cellular phone (see above; Figure 3, element 15, Column 15, line 60 through Column 16, line 13).

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17. Regarding claim 30, Tsuji discloses the computing device of claim 22, wherein the computing device is included in a hand-held device (Figures 22-24, 28, 29; 43, 52; Column 1, lines 14-20; Column 9, lines 58-60).

Claim Rejections - 35 USC § 103

18. Claims 7-11, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuji, et al, U.S. Patent 6,522,347 as applied to claim 1 above, and further in view of Shay, U.S. Patent 5,900,886.

19. Regarding claim 7, representative of claims 8 - 11, and 13, Tsuji discloses the computing device of claim 1, wherein the more than one display mode includes color display (Column 1, lines 28-33; Column 17, lines 45-50) mode.

Tsuji does not disclose monochrome, 8, 18 and 24 bit color display mode with 25,600 and 102,400 pixels. Shay teaches (PDA, Column 7, line 22-26) monochrome (Column 7, line 57), the 8, 18, 24 bit color display mode with 25,600 and 102,400 pixels (Column 4, lines 1-21; 480 x 320 is 153,600 pixels; Column 1, line 58; Column 7, lines 55-63; Figure 16, elements 94, 96, [1], [15:0], [3:0], [5], [7:5]).

The motivation for combining color and text display modes, RAM with multi-bit color control using various display pixel resolutions is improved display quality (Column 1, lines 23-24, 39, 60, Column 2, lines 12-17, 34-37). Shay is evidence that, at the time of the invention, it would have been obvious for someone skilled in the art of flat display processing to combine the benefits of color and text display modes, RAM memory, as Tsuji discloses, with multi-bit color low and high resolution control, as Shay teaches, to provide for an improved quality display of information.

Response to Arguments

20. Applicant's arguments with respect to claims 1-30 have been considered but are moot in view of the new ground(s) of rejection.

21. Applicant asserts that reference Tsuji "does not disclose or teach the use of different display modes as Applicant has defined them...different resolutions and/or different color modes including monochromatic modes" (Page 10, 2d paragraph).

22. Examiner respectfully responds, however, that Tsuji, et al, discloses PDA, color displaying, menu screens needing a plurality of relationships among screen-types of information needing to be selected and grasped, including resolution and color, inherent problems with these display methods (Column 1, lines 8-20, 25-345, 43-65; Column 2, lines 1-15), plus display control and management by various functions and applications (Column 15, lines 16, 20-30, 38-55); display modes (Column 19, lines 15-17).

23. Applicant states, "such generalized statement ['for combining color and text display modes is improved display quality'] is no motivation to combine the references of Shay and Tsuji, et al" (Page 11, main paragraph).

24. Examiner respectfully responds, however, that Shay further teaches overcoming display problems using a display controller with capability of gray scale external to the display controller, thus saving integrated circuit die size, in order to further enhance giving each display dot a clearer definition, flicker-free image, a stable LCD image, to increase quality and decrease CPU interrupts, without an increase in die size (Column 1, lines 8-10, 23-24, 39, 59-60; Column 2, lines 10-16, 34-38).

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Conclusion

25. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen E. Quillen whose telephone number is (703) 605-4584. The examiner can normally be reached on Tuesday – Friday, 8:30am – noon and 1:00 - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew C. Bella, can be reached on (703) 308-6829.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Or FAX'd to:

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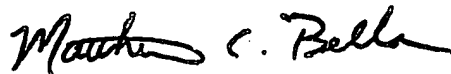
(703) 872-9314 (for Technology Center 2600 only)

Hand delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Sixth Floor (Receptionist), Arlington, Virginia

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number (703) 305-9600 or (703) 305-3800.

Allen E. Quillen
Patent Examiner
Art Unit 2676

July 31, 2003



**MATTHEW C. BELLA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600**